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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,719	11/29/2001	Masao Kato	1272.C0495	2605

5514 7590 08/27/2002

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EXAMINER

TRAN, LY T

ART UNIT PAPER NUMBER

2853

DATE MAILED: 08/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/995,719

Applicant(s)

KATO ET AL.

Examiner

Ly T TRAN

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "buffer chamber" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It's unclear how a plurality of channels that are each in communication with a corresponding one of the plurality of channels. For a purpose to examining, the Examiner interpret that a plurality of channels that are each in communication with a corresponding one of the plurality of ejection openings.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Yano et al. (EP 496 533).

With respect to claims 1 and 10, Yano et al. discloses a method for filling buffer chamber in a print head with bubble and an apparatus to print an image on a print medium comprising:

A print head comprising a plurality of ejection opening, a plurality of channel (Fig.2 and 3) a common liquid chamber for supply ink to plurality of channels, buffer chamber located (Fig.1: element 15) and a bubble generating means for filling the buffer chamber with bubble (Fig.1) comprising step of:

Filling the buffer chamber with bubble by driving the bubble generating means (Column 8: line 24-58)

Executing a recovery process of discharging the ink through the ejection opening after the bubble filling process (Column 18: line 49-50).

With respect to claims 2 and 11, Yano et al. discloses in the recovery process step, excess bubble generated during the bubble filling step are removed (Column 16: line 57-58, Column 17: line 1-5)

With respect to claims 3 and 12, Yano et al. discloses that during the bubble filling step, bubble is allowed to grow up to location of the channel adjacent to buffer chamber (Column 20: line 10-12).

With respect to claims 4 and 13, Yano et al. discloses the bubble generated by driving the bubble generating means is obtained by precipitating a gas dissolved in the ink (Column 19: line 9-11).

With respect to claims 6 and 15, Yano et al. discloses that plurality of channels are each provided with an electro-thermal converter as means for generating ejection energy that cause the ink to be ejected and during the bubble generating step, bubble is generated using the electro-thermal converter together with bubble generating means (Fig.20-22, Column 34: line 54-55)

With respect to claims 7 and 16, Yano et al. discloses the recovery process comprising sucking and discharge the ink through the ejection opening (Column 36: line 29-33).

With respect to claims 8 and 17, Yano et al. discloses recovery process is executed before a printing operation (Column 24: line 54-58, Column 25: line 1-3)

With respect to claims 9 and 18, Yano et al. discloses before the recovery process, the print head is heated at a temperature used for normal printing or higher (Column 24: line 30-58)

With respect to claims 5 and 14, Yano et al. discloses during the bubble-generating step, the bubble generating means is driven to generate bubble while preventing film boiling from occurring in the ink (Column 36: line 54-Column 36: line 18)

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ly T TRAN whose telephone number is 703-308-0752. The examiner can normally be reached on M-F (7:30am-5pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 703-308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0967.



August 20, 2002



**CRAIG HALLACHER
PRIMARY EXAMINER**